

## INVITED REVIEW

### Race Differences in Sexual Behavior: A Critique of Rushton and Bogaert's Evolutionary Hypothesis

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Rushton and Bogaert (1987) presented evidence of race differences in sexual behavior, sex-related physical characteristics, and sex-related physiological processes. They argued that these data supported a theory of genetic race differences in  $r/K$  reproductive strategies. Rushton and Bogaert's (1987) article is criticized here on four grounds. First, they did not explain why natural selection would have favored different reproductive strategies for different races. Second, their data on race differences are of questionable validity because their literature review was selective and their original analyses were based on self-reports. Third, they provided no evidence that these race differences had significant effects on reproduction or that sexual restraint is a  $K$  characteristic. Finally, they did not adequately rule out environmental explanations for their data. © 1989 Academic Press, Inc.

Sociobiology has become a popular theoretical framework in social and personality psychology (cf. Buss & Barnes, 1986; Cunningham, 1986). In a recent issue of this journal, Rushton and Bogaert (1987) presented a sociobiological theory about race differences in sexual behavior. They began by defining an  $r/K$  continuum of reproductive strategies. At one end of the continuum are  $r$  strategists who have large numbers of offspring that are left to survive on their own with no parental care. At the other end of the continuum are  $K$  strategists who have a very small number of offspring to whom they devote a great deal of parental care. According to Rushton and Bogaert (1987), there are genetically based race differences in location on the  $r/K$  continuum such that blacks are more  $r$  than whites who are more  $r$  than Orientals. They support this claim by reviewing data that show predicted rank orderings of the races on attitudinal measures

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such as sex guilt; behavioral tendencies such as frequency of coitus; physical characteristics such as the size of penis, vagina, breasts, and buttocks; and physiological processes such as the rate of sexual maturation and ovulation. They also replicated many of these race differences in an original analysis of some Kinsey data from the Institute for Sex Research at Indiana University.

Although I like sociobiology, I found Rushton and Bogaert's (1987) article unpersuasive and I strongly believe that it should not have been published. In order to make a convincing case for genetically based race differences in reproductive strategy, an investigator would need to provide:

(1) a plausible account of why natural selection would favor different reproductive strategies for different races;

(2) evidence that there are race differences in sexual behaviors and attributes;

(3) evidence that these race differences are functionally related to reproduction; and

(4) evidence that these race differences are not environmentally produced.

Rushton and Bogaert's (1987) article fails to meet most of these criteria.

#### EXPLANATION FOR DIFFERENTIAL NATURAL SELECTION

The evolutionary hypothesis advanced by Rushton and Bogaert (1987) assumes that natural selection favored different reproductive strategies for the different races. Without such differential natural selection, it would be difficult to explain why different genetically based reproductive strategies became prevalent in different racial populations. However, Rushton and Bogaert (1987) provided no account of why such differential selection should have occurred. In a previous article, Rushton (1985) suggested that *r* reproductive strategies are selected for in unstable, unpredictable environments while *K* reproductive strategies evolve in stable, predictable environments. I can think of no basis for arguing that blacks evolved in less stable environments than whites, who in turn evolved in less stable environments than Orientals, so there is no apparent basis for the evolution of race differences in reproductive strategies.

#### RACE DIFFERENCES IN VARIOUS ATTRIBUTES

The argument that race differences in sexual behavior are a part of genetically based race differences in reproductive strategy obviously assumes that the races do differ in sexual behavior and in other related attributes. Rushton and Bogaert's (1987) literature review and original analysis suggest that there are race differences in sexual permissiveness, precocity, and activity as well as in sexually related physical characteristics

and physiological processes. However, the literature review was selective and the original analyses were based on self-report data, so the validity of these race differences is questionable. The authors counter these criticisms by pointing out that the literature review and original analyses were consistent with one another in showing many specific race differences. This consistency of a selective literature review with self-report data is certainly better than either alone, but agreement between two questionable sources of data is not a guarantee of validity or a substitute for more comprehensive reviews and more sophisticated data collection.

Moreover, many of the race differences reported by Rushton and Bogaert (1987) have not been consistently found. The authors themselves acknowledge that some studies have failed to replicate the reported race differences in testes size, age at onset of puberty, and biologic control of sexual interest. Other failures to replicate the reported race differences were not acknowledged. For example, a recent report to the National Academy of Sciences (Hayes, 1987) cites two sources reporting that sexually experienced blacks had intercourse slightly less often than whites (i.e., Zabin & Clark, 1981; Zelnick, Kantner, & Ford, 1981). In addition, there are apparently data inconsistent with Rushton and Bogaert's (1987) claimed race differences in age at menarche. Gregerson (1982) reports that Cuban and Hong Kong girls have the earliest average age of menarche—just over 12 years—while the Greenland Eskimo, South African Bantu, and New Guinea Bundi have an average age at menarche of over 15 years. While these counterexamples and failures to replicate do not disprove Rushton and Bogaert's (1987) claims, they do challenge the apparent unanimity of the findings reviewed by these authors and raise questions about the validity of the reported race differences.

Rushton and Bogaert's (1987) unqualified references to race differences in intelligence and brain size are particularly disturbing. Although race differences in IQ scores do exist, the origin and meaning of these differences is unclear (Loehlin, Lindzey, & Spuhler, 1975). In addition, race differences in cranial capacity and brain size have been discredited (Gould, 1981). Rushton and Bogaert's (1987) unqualified advocacy of these race differences leads one to question the objectivity of their other claims.

#### FUNCTIONAL RELATIONSHIP BETWEEN RACE DIFFERENCES AND REPRODUCTION

Rushton and Bogaert's (1987) use of race differences in sexual behaviors and other attributes as evidence for their evolutionary hypothesis assumes that these differences are functionally related to reproduction. If the race differences discussed by these authors have no effects on reproduction, then they say nothing about race differences in reproductive strategy. Rushton and Bogaert (1987) do not directly address this issue, but do

cite biological work on the characteristics underlying  $r$  and  $K$  reproductive strategies. This assumes that within-species differences on various characteristics have the same effects on reproduction as do between-species differences. This assumption is questionable. For example, Gould (1977, 1981) argues that between-species differences in brain size (after controlling for body size) are related to differences in intelligence, but that within-species differences in brain size are not related to intelligence. A similar argument can be made about between- and within-species differences in  $r$  and  $K$  characteristics. Thus, Rushton and Bogaert need to provide evidence to support their implicit assumptions that the race differences they discuss have significant effects on reproduction.

Despite their surface relevance, many of the race differences discussed by Rushton and Bogaert (1987) have no obvious effects on reproduction. For example, there is little reason to believe that the small race differences in average intercourse frequency reported by Rushton and Bogaert (1987) contribute to differences in fertility, because semen live within the vagina for 3 days. In fact, it could be argued that more frequent intercourse leads to the ejaculation of more immature, and hence less effective, sperm. Similar questions can be raised about the functional significance of the reported race differences in physical characteristics such as the sizes of the penis, clitoris, vagina, breasts, and buttocks. Thus, Rushton and Bogaert (1987) need to justify their claim that these differences reflect different reproductive strategies.

On a more general level, Rushton and Bogaert's (1987) association of sexuality with the  $r$  reproductive strategy is unjustified. These authors identify humans as the most extreme  $K$  strategists, yet humans are also among the most sexual species on earth. Human females are unusual in being sexually receptive throughout their reproductive cycles, so for us sex is more than just a means of reproduction. Sociobiologists have argued that our extreme sexuality serves to create bonds between males and females that work to ensure the assistance of the male in child-raising (Barash, 1977; Wilson, 1978). Thus, contrary to Rushton and Bogaert's (1987) assumptions, it can be argued that the lack of sexual restraint among humans is a reflection of a  $K$  rather than an  $r$  reproductive strategy.

#### ENVIRONMENTAL CAUSES OF RACE DIFFERENCES

In order to make a plausible case for genetically based race differences in reproductive strategy, an investigator would need to rule out plausible environmental explanations for the observed race differences. Rushton and Bogaert (1987) acknowledged that race differences in sexual attitudes and behavior "can be explained in purely environmental terms" (p. 543).

but defended their genetic interpretation in several ways. First, they argued that many sexual behaviors and sexual characteristics are heritable. Of course, the heritability of a trait does not guarantee that race differences on that trait are themselves due to genetic influences, so this argument is not really effective.

Second, Rushton and Bogaert (1987) argued that race differences in physical characteristics like testes and penis size, and in physiological processes like maturation and ovulation rates, "suggest the presence of genetic and evolutionary influences" (p. 543). This argument assumes that physical characteristics and physiological processes are difficult to explain by environmental causes. However, this assumption is not correct. Rushton and Bogaert (1987) themselves acknowledge that dizygotic twinning is related to socioeconomic status and the age of menarche has been linked to diet and body composition (Frisch, Revelle, & Cook, 1973; Frisch, 1978). Thus, race differences in physical and physiological sexual characteristics may be due to environmental rather than to genetic factors.

Third, Rushton and Bogaert (1987) argued that cultural differences between the races may themselves be the result of genetic race differences. While it is possible and (if you accept sociobiology) even probable that genes influence culture, the possibility of genetically based cultural differences between the races is just a hypothesis. This hypothesis, like any other, needs to be tested and Rushton and Bogaert failed to do this in a convincing way.

Fourth, Rushton and Bogaert (1987) argued that their evolutionary hypothesis elegantly and parsimoniously accounts for all their data in a way that cannot be matched by environmental explanations. While I agree that it would take a variety of environmental factors to explain all of the race differences reported by Rushton and Bogaert (1987), parsimony is a criterion of convenience rather than of truth. It should be employed to choose between competing explanations for phenomena only after careful and thorough research has failed to support the superiority of either. Rushton and Bogaert have not yet reached that point.

Finally, in a follow-up study, Rushton and Bogaert (1988) have reported that non-college-educated whites display more *K* characteristics than do college-educated blacks. According to them, these data suggest that race is a more powerful predictor of *K* characteristics than is education level or social class. However, this argument assumes that differences in education level reflect (or measure) all of the cultural and socioeconomic status differences between blacks and whites. This assumption is clearly not warranted—no dichotomous measure can adequately capture these complicated variables. Thus, Rushton and Bogaert's (1988) demonstration that race differences in sexual characteristics are independent of education

level does not rule out these other environmental explanations for the observed race differences.

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